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ABSTRACT

This chapter provides an overview of current school-based youth suicide prevention efforts. Rather than review the wide variety of existing broad-based and focused school-based prevention programs, the chapter covers conceptually grounded exemplars for which there are some empirical data to illustrate recommended, available youth suicide prevention strategies. The review begins with a general prevention framework that describes these programs. Features of comprehensive school-based prevention programs are described as multilevel, multicomponent interventions that including the following components: (1) administrative consultation; (2) school gatekeeper training; (3) parent training; (4) community gatekeeper training; (5) student classes; and (6) postvention interventions, that is, intervention by external consultants to schools and communities in which a suicide or attempt at suicide has occurred. The chapter then addresses evaluation of school-based prevention programs. Issues in school-based prevention are enumerated, including: (1) reduction of access to common means of committing suicide (means restriction); (2) breaking down of the myth that talking with students about suicide will promote suicidal behavior (student curricula); and (3) availability of competent, accessible adults to intervene. The chapter concludes by noting that a general protective factor is the acquisition of social problem solving competencies. The chapter highlights a concern for the future about the conclusion on the part of some school personnel that the youth suicide problem has been solved and that proper resources are no longer needed to support effective school-based prevention programming. (Contains 154 references.) (SD)

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• CHAPTER 7 •

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Prevention of Youth Suicide

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Suicide consistently ranks as the second or third leading cause of death for adolescents between 15 and 19 years of age. Between 1960 and 1990, the suicide rate for 15- to 19-year-olds more than tripled from 3.6 to 11.3 per 100,000 (Berman & Jobes, 1995). From 1980 to 1992, for persons aged 20 to 24 years, the suicide rate declined 7.2% (from 16.1 to 14.9 per 100,000). It increased, however, among persons aged 15 to 19 by 28.3% (from 8.5 to 10.9) and among persons aged 10 to 14 by 120% (from 0.8 to 1.7). This ominous (and likely underreported) increase in the rates for the younger age group appears to be following the trends for substance abuse. Among persons aged 15 to 19, firearm-related suicides accounted for 81% of the increase in the overall rate from 1980 to 1992 (Centers for Disease Control and Prevention [CDC], 1995a). The incidence of suicide *attempts* among adolescents is considerably higher, with various surveys of adolescents consistently averaging about 10% reported attempts among the respondents. For example, the 1993 National Youth Risk Behavior Surveillance (CDC, 1995b) revealed that 22.9% of females and 15.3% of males reported having made a suicide plan during the previous year. Suicide attempts not only can lead to serious injury but also are associated with significantly higher subsequent completions than among the general adolescent population (Pfeffer et al., 1993). Thus, given the prevalence of all suicide behaviors and the impact of suicide attempts and completions on peers, families, institutions, and communities, suicide has impacts far beyond that implied by base rates of reported completions.

These data have resulted in a variety of national calls for intervention and prevention efforts including *Healthy People 2000* (U.S. Department of Health and Human Services, Public Health Service [DHHS], 1991) objectives 6.6: Reduce suicides of youth ages 15 to 19 to no more than 8.2 per 100,000; and 6.2: Reduce by 15% the incidence of injurious suicide attempts among adolescents aged 14 through 17. *Healthy Communities 2000: Model Standards: Guidelines for Community Attainment of the Year 2000 Health Objectives* (1991) included among its services and protection objectives availability and access to services, public awareness, public information, referral networks, and case finding and surveillance systems. Included among its risk reduction objectives is quality school health education, including a mental health component. The report of the Second World Conference on Injury Control, *Injury Control in the 1990s* (1993), included among its violence (including suicide) reduction recommendations the following: programs to improve the recognition, referral, shelter, and long-term therapeutic interventions for people at high risk for violent injury; programs to address not only the behavior of individuals but also the behavior of community institutions and the community environment; and better dissemination of education materials to people who have influence or access to persons at risk.

Clearly, the institution that has the most influence and access to at-risk youth are schools. Coie et al. (1993) noted that schools offer a logical setting for broad-scale (universal) preventive interventions because 9 out of 10 children in our society are found there. Locally initiated school-based youth suicide prevention and intervention programs have become ubiquitous. The responsibility for such programs is acknowledged by educators (Davis & Sandoval, 1991) and included in education statutes and codes that address the protection of students (Kalafat, 1990). Such programs are also clearly part of a rapidly growing trend for school-based health and mental health initiatives that address what Dryfoos (1994) referred to as the "new morbidities" (p. 2), which include violence-related injuries (Carnegie Council on Adolescent Development, 1988; Christopher, Kurtz, & Howing, 1989).

As these programs have matured, many of them conform to the *Healthy Communities 2000* (1991) and *Injury Control in the 1990s* (1993) recommendations to educate those who have influence and access to youth and have begun to address the institutional and

community environment to improve the recognition, referral, and supportive aftercare of suicidal youth (CDC, 1992; Kalafat & Elias, 1995). Although evaluation of these programs remains a critical need (CDC, 1992), results from small-scale evaluations are promising.

This chapter provides an overview of current school-based youth suicide prevention efforts. Rather than review the wide variety of existing broad-based and focused school-based prevention programs, conceptually grounded exemplars for which there are some empirical data have been chosen to illustrate recommended, available youth suicide prevention strategies.

The review will begin with a general prevention framework that informs these programs. The articulation of this framework is important for two reasons. First, these programs share an overarching characteristic of effective interventions in that they are *intentional* (Cowen, 1980). That is, they are based on articulated conceptual frameworks or program logic (Illback, Zins, Maher, & Greenberg, 1990). An understanding of this framework can serve as a guide to those who wish to adapt a cost-efficient youth suicide prevention program to their particular setting and to developments in the field, while preserving its essential elements. Second, general confusion exists about prevention concepts and terminology (Institute of Medicine, 1994), and this lack of understanding of basic prevention concepts and strategies is reflected in criticisms of school-based universal prevention programs that can hamper their dissemination.

Prevention Framework

Silverman and Felner (1995) proposed that a prevention framework should address four questions:

1. What do we mean by the concept *prevention* when applied to suicide?
2. What and where is the focus of suicide intervention (prevention)?
3. What are the goals of suicide prevention programs?
4. Who are the target groups of suicide prevention versus, for example, intervention?

What Is Prevention? The Classic Model

Citing confusion surrounding the public health nomenclature of primary, secondary, and tertiary prevention, the Institute of Medicine (1994) adopted a framework developed by Gordon (1983) that uses a nomenclature that has an intervention focus. This consists of *universal* interventions, which are directed at an entire population; *selective* interventions, which are directed at individuals who are at greater risk for diseases or disorders than the general population; and *indicated* interventions, which are targeted to relatively small groups who are found, by screening programs or other inquiries, to manifest a condition that requires intensive interventions. At least one comprehensive, statewide youth suicide prevention effort has been organized around these concepts (Eggert, Thompson, Randell, & McCauley, 1995).

This new terminology may not clarify programmatic efforts—for example, coping skills classes for students or family support programs can fit into any of the three categories, depending on the target audiences. Others have recommended reformulation of primary, secondary, and tertiary prevention into prevention, early intervention, and treatment, respectively (Felner, Adan, & Silverman, 1992).

On a practical level, a classic prevention framework seems to serve well to organize intervention efforts. This states that the goal of prevention is to reduce the incidence and prevalence of disorders or dysfunctional behaviors in a population by reducing stressors (predisposing or precipitating) associated with the emergence of the disorder and/or enhancing available supports, both internal (e.g., coping skills, knowledge, and attitudes) and external (e.g., individual support networks and supportive contexts or environments; Caplan, 1964).

The Foci of Prevention: Pathways to Suicide

Prevention occurs, by definition, before the disorder or dysfunction is fully manifested, so its focus is on precursors of dysfunction or health. Because of this focus,

- it cannot have as its first order targets of change the disorders it seeks to reduce or other individual level pathologies. Instead, prevention

will be applied to the enhancement, disruption, or modification, as appropriate, of the unfolding processes (and conditions) that lead to well-being or to serious mental health or social problems . . . with the goals of increasing or decreasing, respectively, the rate or level with which these occur in the target population. (Silverman & Felner, 1995, p. 75)

These potential precursors of dysfunction or health are called, respectively, risk or protective factors (Coie et al., 1993). These are the stressors and supports in Caplan's (1964) framework, and the emphasis in suicide prevention, then, is not so much on suicide behavior per se but on individual and environmental processes that may lead to that state.

Another characteristic of preventive interventions that is contained in the above formulation should be highlighted. The emphasis on addressing a priori unfolding processes that lead to the emergence of suicidal behavior requires that some attempt be made to explicate the developmental trajectories or evolutionary history of youth suicide (Felner et al., 1992). As one moves along that trajectory, the conditions targeted become progressively more severe and specific to the dysfunctional outcome, which, in this case, is, again, suicidal behavior.

Thus, to mount a youth suicide prevention program within the framework that has been described so far, one must seek to identify risk and protective factors (stressors and supports) in the adolescent population that can be reduced or enhanced, respectively, such that the trajectory toward suicidal behavior will be attenuated or interrupted. As the trajectory moves closer to suicidal behavior, these factors will move from broad-based risk/protective factors (e.g., social problem solving) to those more specific to the emerging crisis of the suicidal state (e.g., helpful responses to troubled or suicidal youth).

Efforts to identify specific risk factors associated with suicide have been unsuccessful to date. Felner et al. (1992) describe "an almost bewildering array of conditions that have been cited as contributing to suicidal risk" (p. 428). Risk factors that have been identified have been described as sensitive but not specific, in that they produce significantly high false positive rates (Garland & Zigler, 1993). Coie et al. (1993) noted that specific forms of dysfunction are typically associated with many risk factors and that

diverse disorders share fundamental risk factors in common. As Felner et al. point out, risk factors considered for suicide have high levels of associations with a broad array of other disorders, which are themselves often employed as predictors of youth suicide. Moreover, youth epidemiological studies have yielded a clear picture of the comorbidity of a variety of disorders, and suicide is no exception; comorbidity with substance abuse, depression, and social and behavioral problems (conduct disorders) have been demonstrated (Rutter, 1989). One of the bases for the comorbidity of such phenomena as suicide, substance abuse, and conduct disorders may be that they share similar underlying functions. At the least, they may represent ineffective responses to stressful situations. Finally, Coie et al. noted that the salience of risk factors may fluctuate developmentally, such that indexes of risk at one age do not necessarily identify risk at all ages. This prompted them to indicate that "as a general rule, prevention is best made from proximal risk factors" (p. 1014).

Given that "it would be difficult to find some life experience, adaptive demand, or psychological difficulty that has not been shown to relate to suicide in one way or another" (Felner et al., 1992, p. 428), one can understand why it is difficult to develop a youth suicide prevention program that targeted the reduction of relevant stressors or risk factors. Research on risk factors continues and appears to dominate federal funding priorities (e.g., National Institute of Mental Health, 1994). Although current risk factors that have been posited as associated with suicide risk do not yet constitute reliable predictors, they can serve as markers of troubled youth who require early intervention in any case.

In the meantime, applied suicide prevention efforts must identify potentially effective strategies. Both broad-based and focused school-based prevention programs have tended to emphasize the strategy of enhancing internal and external resources. In contrast to the somewhat confusing array of risk factors, there is evidence that protective factors, such as strong social support and well-developed coping skills, may reduce the likelihood of a range of disorders or dysfunctions, even in the presence of a variety of conditions of risk or vulnerability (Felner, DuBois, & Adan, 1991; Weissberg, Caplan, & Harwood, 1991). Coie et al. (1993) stated that "enhancing protective factors may be the strategy of choice in

cases in which risk factors are difficult to identify in advance . . . or to eliminate altogether" (p. 1014). This seems to echo a conclusion proposed by Caplan (1964), as part of his classic prevention model: "In the absence of a knowledge of the causes of mental disorders, primary prevention must be directed toward improving nonspecific helping resources in the community" (p. 30). This strategy may be particularly important for the prevention of youth suicide because there is troubling evidence that a number of variables that have been associated with youth suicide are associated with reductions in support levels.

Bell-Dolan, Foster, and Christopher (1995) found significantly higher levels of anxiety and depression in rejected and withdrawn girls compared with neglected and popular girls. These authors reviewed studies indicating the unpopularity of anxious and depressed youth. These studies were correlational, however, and thus provided no evidence whether rejection caused anxiety and depression or vice versa. In a longitudinal study, Hirsch and DuBois (1992) found anxiety and depression prospectively associated with low levels of peer support during transition to seventh grade, at midyear, and again at the end of seventh grade. Two other studies suggest that depressed youth may elicit negative social responses. Connolly, Geller, Morton, and Kutcher (1992) found that depressed adolescents were rated less favorably by peers than nondepressed adolescents after a brief interaction. Mullins et al. (1995) found that depressed fourth- to sixth-grade children elicited negative social responses from teachers. Joiner (1994; Joiner, Alfano, & Metalsky, 1992) also found that depressive symptomatology led to negative reactions in others.

Dubow, Kausch, Blum, Reed, and Bush (1989) found that junior high and high school students who experienced the most severe suicidal ideation in the past year also experienced more negative life events, lower levels of family support, and less school involvement than nonideators. Garrison, Addy, Jackson, McKeown, and Waller (1991) found that undesirable life events and self-report measures of low family adaptability (rigidity) and cohesion (disengagement) were significant predictors of suicidal ideation in a longitudinal study. Kienhorst, DeWilde, Diekstra, and Wolters (1995) found that suicide attempters reported family and peer problems occurring prior to their attempt and identified isolation

as the main reason for the 6 months prior to their attempt being worse than before. These and other studies provide evidence for a relationship between low family and peer support and suicidal risk in adolescents (Hawton, O'Grady, Osborn, & Cole, 1982; Topol & Resnikoff, 1982).

Also, interpersonal conflict and losses are among the most commonly reported precipitants for completed and attempted suicide in adolescents (Brent, Perper, Moritz, Baugher, Balach, & Schweers, 1993; Shaffer & Gould, 1987).

Finally, Clark and Fawcett (1992) described a phenomenon among suicidal individuals that they termed *help negation*. They contended that this negation is due to the hopelessness and pessimism characteristic of the constricted cognitive/affective state of a suicidal crisis, but there is some evidence that this hopelessness and pessimism may be more generally characteristic of these individuals outside the crisis state (Rudd, Joiner, & Rajab, 1995).

In regard to external supports, these studies portray a trajectory toward suicidal behavior composed of the experience of stressful (often interpersonal) life events, a (at least perceived) lack of support from family and friends, perhaps the exhibition of behavior and affect that may attenuate supportive responses, a lack of integration into the school environment, and a general pattern of increasing isolation (Trout, 1980). To the extent that this pattern of withdrawal is interrupted at all, troubled and suicidal youth tend to turn to peers for support.

Research has indicated that many suicidal youth confide their concerns more often to peers than adults (Brent, Perper, Kolko, & Goldstein, 1988; Clark, 1993; Dubow et al., 1989; Kalafat & Elias, 1992; Spirito, Overholser, Ashworth, Morgan, & Benedict-Drew, 1988). These studies indicate that 40% to 60% of female adolescents and 25% to 40% of male adolescents report personally knowing a teen who had attempted suicide. This phenomenon has emphasized the importance of peers in the school-based prevention of youth suicidal behavior and prompted the authors of one psychological autopsy study to comment that "the role of friends and peers in the early recognition of suicidal behavior and prevention of suicide cannot be overemphasized" (Shafii et al., 1984, p. 293).

Some adolescents, however, particularly some male adolescents, do not respond in an empathic and helpful way to potentially or

overtly suicidal peers (Norton, Durlak, & Richards, 1989; Overholser, Hemstreet, Spirito, & Vyse, 1989; Wellman & Wellman, 1986). As few as 25% of these peer confidants may tell an adult about their suicidal peer (Kalafat & Elias, 1992; Kalafat, Elias, & Gara, 1993). The concerns raised by these findings are reinforced by the general literature on adolescent help seeking. These and other studies consistently find a trend toward peers as primary sources of support for troubled adolescents (Harman, Armsworth, & Henderson, 1989; Wintre, Hicks, McVey, & Fox, 1988). Youth who are disturbed (including those who are depressed, suicidal, and substance abusers) favor peers over adults more than do nondisturbed youth (Naginy & Swisher, 1990; Offer, Howard, Schonert, & Ostrov, 1991; Wills & Vaughan, 1989). Of critical importance to school-based interventions is that school personnel are among the last choices for talking about personal concerns (Hutchinson & Reagan, 1987; Meagher & Clark, 1982; Wells & Ritter, 1979). On the basis of these studies, *it is reasonable to consider reluctance to seek adult help as a risk factor that increases the probability of negative or injurious outcomes for a variety of disturbed youth.* Again, because many of the problem behaviors displayed by troubled youth tend to occur together, a program that promotes help seeking may affect more than one behavior and thus generate a greater return on the school's investment.

Conversely, *contact with helpful adults may be considered a protective factor.* One of the protective factors for resilient youth (i.e., youth who do well despite stressful environments) is involvement with a significant adult figure (Garmezy, 1983). For young adolescents, studies suggest that family support is a major influence on self-esteem and self-efficacy and consistently show stress-buffering effects (Greenberg, Siegel, & Leitch, 1983; Larson, 1983; Wills, 1985). Also, the findings concerning the prominence of peer groups in teens' lives prompted Cauce and Srebnik (1989) to suggest that peer networks affect youth behavior both in the support they provide and the values they promote. These values may serve to support or undermine the goals of prevention programs. Certainly, the value placed on keeping confidences and not confiding in adults represents a teen value that must be addressed in prevention programs aimed at enhancing the efficacy of peers in the early detection of troubled and suicidal adolescents. Cauce and

Srebnik called for better ways to channel students' energies into activities that promote mutual help. The Carnegie Council on Adolescent Development listed among its Recommendations for Fully Healthy Adolescents, "Willingness and ability to use the available information and services, especially when provided by family, youth organizations, educators, mentors, and constructive role models" (Hechinger, 1992, p. 9).

There is also evidence that the *provision* of help by youth may be beneficial to them. Adolescents' prosocial values have been directly related to multiple indexes of their social competence and inversely related to several serious adolescent problem behaviors (Allen, Aber, & Leadbeater, 1990; Allen, Weissberg, & Hawkins, 1989). Also, empirical studies of children participating in helping interactions indicate that these interactions may shape children's prosocial behavior and reduce problematic behavior (Allen, Philliber, & Hoggson, 1990; Staub, 1979). Such prosocial competencies may carry over to a variety of current and future challenging situations faced by youth, thus further amplifying the effects of programs that emphasize mutual support (Silverman & Felner, 1995).

The Goals of Suicide Prevention Programs

The findings that troubled youth frequently turn to peers for support and that encounters between suicidal youth and peers are fairly common point to a clear need to prepare youth to respond to these encounters in prosocial, effective, and helpful ways. This entails convincing adolescents to break confidences and tell adults. There is now an increasing consensus among those who provide school-based youth suicide prevention programs that one important objective of these programs is to increase the probability that troubled or suicidal youth and their peer confidants will turn to adults before their concerns become overwhelming and/or injurious (CDC, 1992; Kalafat & Ryerson, 1993).

In addition to focusing on peers, these programs also seek to enhance the ability of adults in schools and families to identify and respond to troubled (i.e., before suicidal ideation occurs) and suicidal (i.e., ideation and behavior) youth. The overall goal of such programs within the present prevention framework is to enhance the responsiveness and supportiveness of key elements in the

environments of youth to interrupt the pathway toward suicidal behavior.

Given the low base rates of many disorders and that nonspecific predisposing and precipitating conditions may be responsible for the expression of many disorders, Coie et al. (1993) suggested that an emphasis on identifying risk and protective factors unique to specific disorders is less likely to be productive than an attempt to discover those that are common to many disorders. They further contended that most generic risk and protective factors lend themselves to preventive interventions consonant with broad community mental health approaches and that "prevention theory can specify universal interventions to be administered to unselected populations if they are known to have potential benefits and no adverse effects for participants" (p. 1017). Help seeking on one's own or one's peer's behalf appears to be a generic protective factor that can be addressed through population-focused or universal prevention programs.

The Target Groups

By now, it is apparent that prevention programs are by definition population focused. All adolescents should be targeted in programs that emphasize the prosocial values and behaviors of mutual support. In regard to the timing of interventions, transitional periods such as the entry into middle school from elementary school or into high school from middle or elementary school may be most appropriate (Eccles et al., 1993; Felner & Adan, 1988; Hirsch & DuBois, 1992). Ninth graders appear to be a particularly appropriate target for intervention because peer conformity for antisocial behavior may peak at this age (Berndt, 1979). Also, at least one study of a community sample found that suicidal ideation peaked in 9th grade, following transition to high school (Dubow et al., 1989). In another study, 9th graders were more likely to ignore suicidal peers than 11th graders (Kalafat & Elias, 1992). They are also less likely to be familiar with any adults in the school. Finally, they are members of the age cohort for which the increase in suicide rate between 1980 and 1992 was greatest among youth. Comprehensive programs have included booster sessions for later grades—for example, how to find help on college campuses and in the community (Kalafat & Underwood, 1989).

Features of Comprehensive School-Based Prevention Programs

Comprehensive programs are multilevel, multicomponent interventions that include the following components, usually implemented in this order:

1. *Administrative consultation* ensures that policies and procedures for responding to at-risk students, attempts, and completions are in place and ensures that community linkages exist for close coordination of referrals to, and return of students from, community gatekeepers.
2. *School gatekeeper training* is provided for all faculty and staff (including such staff as bus drivers and cafeteria workers) on the identification of, initial response to, and effective referral of students who are troubled and at risk. This sometimes includes the establishment of in-school crisis response teams made up of faculty, staff, and administrators.
3. *Parent training* covers similar material as the school gatekeeper training, as well as means restriction strategies.
4. *Community gatekeeper training* incorporates policies and procedures for effective response and coordination with schools and families. This sometimes includes training in the treatment of depressed and suicidal adolescents. Community crisis teams and media campaigns have also been implemented.
5. *Student classes* usually consist of four to five class periods included in the health curriculum. Classes include a variety of media and involve students in discussions and role plays to prepare them to recognize and respond to troubled peers and to destigmatize seeking adult help.
6. *Postvention interventions* are provided by external consultants to schools and communities in which a suicide completion or serious attempt has occurred. These interventions consist of standard steps designed to process faculty, student, and community reactions to the event; facilitate grief work; and prevent imitative acts among identified vulnerable peers.

School officials may be hesitant to commit what appears to be a significant amount of time and resources to a phenomenon that is less visible to them than other problems, such as interpersonal violence. These programs, however, were developed in school settings and have evolved cost-efficient implementation procedures. Crisis response teams, community linkages, and outreach to

parents are already part of effective schools' repertoires for addressing a variety of problems. Well-developed sets of policies and procedures can be easily adapted to particular schools. The educator and parent training can be completed in 1 to 2 hours each, with brief annual updates. Again, the mutual help message of the student lessons is relevant to a variety of issues faced by students and, as will be described later in this chapter, can be combined with general problem-solving lessons that have a broad application to student issues.

The student lessons of established programs were developed in collaboration with educators and thus share additional features that facilitate their efficient adaptation to school settings. They contain developmentally appropriate, detailed lesson plans that eschew mental health jargon and comply with the educational and protective mission of schools. These lessons include the instructional sequence that is necessary for teaching skills: demonstration, practice, feedback, and practice (Gagne, 1985). They have also been successfully adapted to multicultural settings (Ryerson, 1990). Finally, they are designed to be taught by regular classroom teachers. This promotes ownership of the program and enhances school-based supports in the form of adults who are informed and willing to discuss sensitive issues. These lessons have been packaged for turnkey implementation (Kalafat & Underwood, 1989), or, to ensure fidelity, teachers selected by the school can be provided additional initial training.

Some schools also include peer support or helper programs. Descriptions of examples of each of these components are included in a comprehensive overview by the CDC (1992). These programs, then, share many features that have been posited as characteristic of effective school-based prevention programs (Weissberg & Elias, 1993).

Evaluation of School-Based Prevention Programs

School-based youth suicide programs that have addressed help seeking to various degrees have been in existence since 1980. They have undergone several iterations since the initial grassroots responses to school requests for assistance. First-generation school

programs were characterized by attempts to address a variety of topics such as depression, stress, suicide dynamics and etiology, warning signs, and help seeking. They lacked focus, and evaluation results were mixed. Either program effects on student knowledge and attitudes toward suicidal peers and intervening on their behalf were not found (Shaffer, Garland, Vieland, Underwood, & Busner, 1991), or knowledge gains were found for both genders while positive attitude changes were found for only female students (Overholser et al., 1989; Spirito et al., 1988).

Drawing on the experiences of initial programmatic efforts, many second-generation programs were more focused on preparing students to respond to encounters with at-risk peers and to seek adult help. The evaluations of these programs, although few in number, have been encouraging. Ciffone (1993) assessed the impact of health classes aimed at increasing understanding of the nature of suicide and increasing the number of students who endorse the option of taking suicidal threats seriously and seeking help on behalf of a potentially suicidal peer. He found that exposure to the program resulted in shifts in responses from undesirable to desirable in all six items addressing help seeking for oneself or a troubled peer that were significantly greater than in comparison groups.

A colleague and I (Kalafat & Elias, 1994) evaluated a published curriculum (Kalafat & Underwood, 1989) using a Solomon four-groups design and found that students who participated in the four suicide response health classes, as compared with controls, showed significant gains in relevant knowledge about suicide and significantly more positive attitudes toward help seeking and intervening with potentially suicidal peers. No gender or pretesting effects were found. Student reactions to the curriculum were positive and emphasized the use of the classes for helping them with friends' problems, as was the intent of the program.

These studies employed self-report questionnaires, and another study (Kalafat & Gagliano, 1996) employed simulations to assess the responses of trained and untrained students, as has been successfully done with simulations in the counseling (Berven, 1985) and medical education fields (Hubbard, 1978). Assessed were student responses in simulations of both suicidal and troubled (not explicitly suicidal) peers to evaluate a curriculum that aimed at destigmatizing mental health services and help seeking in general

and that also included practice in responding to suicidal peers. Two vignettes were employed (from the Kalafat et al., 1993 study): (a) low ambiguity—peer says, "Sometimes I think I might as well kill myself," and (b) high ambiguity—peer writes essay titled "(Final) Family Decisions." Participants, compared with controls, showed significant increases in the "tell an adult" responses to the vignettes. Although more class participants wrote "tell an adult" responses to both vignettes at the posttest, the actual percentages of responses in this category at posttest (unambiguous: 40.4% treatment, 1.8% control; ambiguous: 28.8% treatment, 0% control) indicate the need for further work in this area.

These studies provide encouraging initial data concerning proximal outcomes for student curricula. As noted previously, however, a critical need remains for large-scale studies of comprehensive programs. The question also persists whether these knowledge and attitude changes translate into performance in actual situations. To date, a number of programs have reported increased referrals (self and other) following program implementation, but no controlled studies have systematically tracked such referral patterns (CDC, 1992).

Efforts to assess distal outcomes of school-based youth suicide prevention programs—reductions in the incidence of suicide attempts and completions—are fraught with difficulties. First, the goal of most programs is the early identification and referral of at-risk youth, but, as will be discussed later in this chapter, the results of treatment of at-risk persons, and adolescents in general, are not impressive. Second, no reliable morbidity (attempts) data are available (Moscicki, 1995). Third, as Weissberg et al. (1991) pointed out, prevention programs must first assess the extent of implementation fidelity and institutionalization to demonstrate sustained impact. Finally, because of the low incidence of suicide completions, a program not only must be faithfully implemented but also must be widely disseminated and institutionalized for years to be able to demonstrate any epidemiological impact.

Data are available for one comprehensive school-based program that has fulfilled these criteria. The Adolescent Suicide Awareness Program (ASAP; Ryerson, 1990) is essentially the same type of program previously discussed (evaluated by Kalafat & Elias, 1994) and is the program on which the simulation intervention (Kalafat & Gagliano, 1996) was modeled.

A hallmark of ASAP has been a set of specific implementation and dissemination procedures. To ensure greater program fidelity and to ensure the school community linkages that are an essential component of ASAP, the preferred implementation strategy is to train a core of consultants from a mental health or crisis agency. Those consultants, in turn, disseminate ASAP to schools in their service area. ASAP consultants employ a train, demonstration, feedback method in which they (a) provide the consultants with an 8-hour ASAP workshop, (b) implement ASAP in a school while being observed by the consultants, and (c) observe the consultants implementing ASAP. In turn, ASAP is implemented in schools by training a core of school personnel, demonstrating the educational program components to them in their schools, and observing their provision of the educational components (gatekeeper, parent, and student training).

In the county in which ASAP originated, a populous Northeastern county containing a multiethnic middle-class and blue-collar population, ASAP was implemented in 40 of 52 public and private high schools from 1982 to 1987. A 10-year follow-up survey (Ryerson, 1993), to which 31 of 46 public secondary schools in the target county responded, revealed that 30 of the 31 respondents still provided the student curriculum. In general, student classes were reduced in length from the original program, probably because of the need to address additional morbidities such as interpersonal violence and AIDS. Only 5 schools reported continuing faculty training, 3 reported continuing parent training, and 27 reported having in-school crisis teams (a recommended means of providing accessible response to troubled students).

In addition, 11 county schools that had participated in the first round of ASAP implementation (1983 to 1984) were interviewed using a survey questionnaire based on the literature on the institutionalization of innovations (see Fairweather, Tornatzky, Fergus, & Avellar, 1982). Of particular interest was the *fidelity adaptation* issue regarding the degree to which programs can be adapted to local contexts without compromising the essential components of the program (Blakey et al., 1987). Results indicated that 9 of the 11 schools continued to provide ASAP 10 years after the original implementation (Ryerson, 1993). Every school had updated materials (e.g., statistics and videos), deleted some materials (e.g., section on adolescent development), and added content (e.g., problem

solving, other self-destructive behavior). Five had converted a pullout workshop into classes in the health curriculum. Only one reported change raised concern about program integrity: One school converted the workshop into three classes, which was half the original dosage.

In schools that had retained the program for years, a number of elements that are critical for the institutionalization of innovative programs were present. These included (a) the ability to adapt the program to the school structure and to new findings; (b) a specific individual who retained responsibility for the program; (c) administrative support; and (d) a supportive organizational context in the form of policies, community linkages, and clear connection to the school's mission.

To assess the possible epidemiological impact of a carefully implemented, widely disseminated systemic program, the suicide rates for the county and state were compared (Table 7.1). Although these results cannot be causally linked to the ASAP dissemination, they do provide encouraging data from a county saturated by a prevention program and also provide further evidence against the persistent myth that talking about suicide with adolescents will prompt suicidal behavior.

In addition to evaluations of the student portion of school programs, evaluations of school gatekeeper training have yielded gains in knowledge of suicide warning signs and community resources and attitudes toward intervening with and referring at-risk youth (Reisman & Scharfman, 1991; Shaffer, Garland, & Whittle, 1988). Evaluations of community gatekeeper training programs

Table 7.1 Suicide Rates for 15 to 24 Age Group for Bergen County (NJ) and the State of New Jersey

	<i>New Jersey</i>	<i>Bergen County</i>
Preimplementation 1978 to 1982	8.72	7.26
Implementation 1983 to 1987	8.66	7.53 (6.98)*
Postimplementation 1988 to 1992 (continuing operation)	7.90	4.38 *

NOTE: Separate rates for ages 15 to 19 and ages 20 to 24 are not available for state or county.

* This figure excludes a cluster of four suicides of adolescents who had dropped out of a school that did not have a program.

have shown significant increases in suicide intervention knowledge and skills (Tanney, 1989; Tierney, 1988). Several school-based programs, although not controlled studies, report after program implementation increased self- and other referrals and, in particular, increased calls to local hotlines (CDC, 1992). Hotlines are particularly accessible to adolescents because they are anonymous "low cost" help-seeking options that require no transportation, payment, or parental knowledge. There is some evidence for a preventive effect of suicide prevention centers (which are mainly hotlines) in the form of a negative correlation between the number of centers in states and the suicide rates (Lester, 1993).

Issues in School-based Prevention

The universal youth suicide prevention approach that has been described is not without controversy. Two issues deserve at least brief overviews: means restriction and student curricula. A third issue involves the availability of competent, accessible adults and has significant programmatic implications for school-based prevention efforts.

Means restriction is a recommended part of the parents component. Means restriction refers to prevention efforts that reduce access to common means of committing suicide. For adolescents, the most common means of committing suicide is firearms. In 1988, among males aged 15 to 24, 64% of all suicides were committed with guns; for females, this rate was 45% (CDC, 1992). As was previously noted, firearms account for 81% of the increase in adolescent suicides between 1980 and 1992.

For most adolescents, suicide appears to be an impulsive act carried out in response to a particular precipitant (Rosenberg & Mercy, 1991; Shaffer, Garland, Gould, Fisher, & Trautman, 1988). Research has indicated that the risk of suicide doubles if a firearm is in the house, even if it is locked up (Brent et al., 1991; Brent, Perper, Moritz, Baugher, Schweers, & Roth, 1993). A number of studies have shown a positive association between strict handgun control laws and low firearm-related suicide rates (Lester, 1996; Loftin, McDowall, Wiersema, & Cottey, 1991). Evidence for switching to other means is mixed for the total population and has

not been studied for adolescents, although results of studies on restricting access to lethal means other than firearms show a strong preventive effect (Lester, 1996). Thus, one goal of *Healthy People 2000* (DHHS, 1991) was a 20% reduction in the proportion of people who possess weapons that are inappropriately stored and therefore dangerously available. The CDC (1992) has also identified restriction of access to firearms as a major strategy for the prevention of youth suicide.

According to experts, including the National Rifle Association and the Sporting Arms and Ammunition Manufacturers Institute, the safe handling of firearms requires that guns be stored unloaded in a locked area separate from ammunition (Zimring & Hawkins, 1983). The major reason U.S. gun owners give for ownership, however, is protection, and thus the majority keep guns loaded and unlocked (Weil & Hemenway, 1992).

Specific strategies for reducing the availability of guns, including firearm disposal and safe storage, are available (e.g., Handgun Epidemic Lowering Plan, 1996), but this remains a contentious issue in this country. For example, in July 1996, the House of Representatives slashed \$2.6 million from the National Center for Injury Prevention and Control, a branch of the CDC that had planned to use the funds for research on firearm-related injuries. Republican lawmakers accused the injury center of promoting research that advocates gun control (Walker, 1996). Given that means restriction appears to be one of the most effective youth suicide prevention strategies, efforts will continue in this area. For example, the American Association of Suicidology has received a grant to develop effective means restrictions strategies (Berman, 1996).

A second issue that has plagued prevention efforts in this area is the persistent myth that discussions with students about suicide will somehow prompt suicidal behavior among them. This myth stems in part from a spurious analogy between discussions with students in an effort to promote mutual support and help seeking and imitation by vulnerable adolescents following media depiction of suicidal acts (CDC, 1994) and imitative suicidal behavior following suicides of peers of vulnerable youth (Brent et al., 1992). Carefully designed programs eschew any media depiction of suicidal behavior. As with discussion of any sensitive material that touches stu-

dents' current lives, experienced teachers know the need, and well-designed programs include reminders for the provision of opportunities to process or follow up individual students' reactions. Therefore, these classroom discussions of responses to suicide are no more equivalent to media depictions or actual suicide completions (which are followed by suspension of classroom lessons and institution of postvention procedures) than are discussions of drugs and interpersonal violence equivalent to media depiction or modeling of these phenomena. This argument also incorrectly assumes that such classroom discussions represent the students' initial exposure to the topic or phenomenon, which is no more true for suicide than for sex education.

A second source for this myth is an often-cited article by Shaffer et al. (1990). This study reported the responses to first-generation school programs of self-reported suicide attempters, as compared with self-reported nonattempter program participants. The numbers of attempters available for these comparisons were small (35 for some analyses, 17 for other analyses) because some schools did not employ all the questions (many of the differences were for males, which involved sample sizes of 10 and 4 for the two sets of analyses). Although the overall responses of these students to the programs were generally positive, a greater percentage of the attempters, compared with nonattempters, reported negative reactions on some items. A variety of methodological concerns and plausible rival hypotheses (as opposed to harmful effects on participants) as to the meaning of these responses were noted by the authors themselves in another report (Shaffer, Garland, & Whittle, 1988) and by other researchers (Clark, 1990; Kalafat, 1991). Although Shaffer et al. (1990) noted that "even if the program did upset a minority of the attempters, perhaps arousing thoughts and feelings of their own situation, that would not necessarily be dangerous" (p. 3155), they continued to express concerns. The study was followed by a spate of strident headlines such as "stirs depression" and "killing our kids," as well as by references to harmful or iatrogenic effects by otherwise responsible researchers. The facts are best summarized by the following quotes: "There is no evidence of increased suicidal ideation or behavior among program participants" (CDC, 1992, p. 66). "Furthermore, numerous research and intervention efforts have been completed without

any reports of harm" (Potter, Powell, & Kachur, 1995, p. 87). Again, this is exemplified by the results of the ASAP dissemination.

The third issue arises in relation to prevention strategies that involve referring at-risk and suicidal adolescents to treatment or urging troubled youth and their peer confidantes to turn to adults in the school. The former strategy may appear tenuous because of the lack of evidence for the efficacy of treatment of individuals who have made prior suicide attempts (CDC, 1992; Muehrer, 1990). As Felner et al. (1992) pointed out, however, this should not be surprising, given how late in the developmental stage of their problems suicide attempters are. Programs that focus on earlier identification and referral and that lower barriers to help seeking may bring troubled youth to treatment at a more amenable stage of their problems. The early detection goal of school-based programs is to identify and assist troubled youth prior to, or at the latest, at, the ideation stage that precedes overt behavior. Still, this area is troubling because adolescents are well known for their resistance to treatment and for high dropout rates (Sommers-Flanagan & Sommers-Flanagan, 1995) and because of the probably not-unrelated lack of preparation of many providers for working with suicidal clients (Bongar & Harmatz, 1991). The shift to school-based services provided by individuals more familiar with and to students may enhance the psychological and cultural accessibility of assistance for troubled adolescents (Dryfoos, 1994).

Given the current strong resistance of students toward using adults in their schools as helpers, however, providing training to students and school gatekeepers on the early identification and referral of troubled adolescents and attempting to convince them of the importance of breaking confidences in special situations is only half the battle (Kalafat & Elias, 1995). There has been a call for ecological or transactional programs (Felner & Felner, 1989) that address the nature of the environment confronted by individuals. For the most part, this is a call for attending to generalization issues that have long been a concern of organizational trainers. Strategies for ensuring that knowledge and skills learned in the classroom are applied or translate into performance outside the classroom include arranging positive contingencies for such performance and removing barriers to the performance. For school-based programs that emphasize help seeking, this means that such training

must be complemented by efforts to provide supportive and culturally, psychologically, and temporally accessible adults to students in their schools and to address organizational issues that serve as barriers to help seeking in schools.

Toward this end, focus groups of 9th- and 11th-grade students have been conducted to identify barriers to their seeking help from adults in their schools (Ross & Kalafat, 1996). In addition to particular characteristics of adults in whom they would and would not confide, these students identified systemic or school organizational characteristics that appear to attenuate seeking help from adults in the school. They indicated that a central characteristic of adults in whom they would confide was that they and the adult had gotten to know each other fairly well. They then pointed out that the way schools are organized, which is characterized by multiple periods occurring in rapid succession and teachers' inability to track students within a class year or across years, precludes teachers and other school personnel from forming relationships with students that encourage sharing of concerns. This is particularly true for 9th graders, who are dealing with a major transition from elementary or middle schools and do not know anyone in the school well. Guidance counselors, in particular, were characterized as overworked and under time pressures that precluded their giving the message that they would be willing to sit and listen to students. Moreover, there did not appear to be facilities for such private conversations in many of the schools.

A second major barrier to talking to adults in schools were the dual roles occupied by teachers and counselors. That is, both teachers and counselors carried out disciplinary and evaluative functions that made students cautious about revealing personal problems to them.

Finally, students noted that confidentiality was rarely honored. Part of this appears to be a "teachers' lounge" phenomenon, and part a genuine confusion as to what interactions with adolescents at which ages may be kept confidential. This issue appears to be widespread, as confirmed by informal discussions with school personnel and consultants from a number of states, as well as in a project that involved the enhanced coordination between schools and a regional mental health system for the safe return of students to schools after hospitalization for suicidal ideation or behavior (Kalafat & Mackey, 1994). This effort prompted the develop-

ment of well-received workshops on confidentiality for school personnel.

These concerns about depersonalizing school organizational environments have been noted in the literature. A report on the education of young adolescents (Carnegie Council on Adolescent Development, 1988) noted that keeping students and teachers together in teams in which they can develop a sense of belonging and interconnectedness reduces the degree of flux that students must confront and provides for increased support that may reduce the development of psychosocial difficulties. A review of prevention programs aimed at the interrelated behaviors of low achievement, dropout, delinquency, and substance abuse reveals that this call has been answered by the development of programs aimed at creating a sense of community (Purkey & Smith, 1983). Specifically, these programs involve a variety of strategies for engaging youth in the operations of their schools and thus promoting bonding with the school (Hawkins & Weis, 1985). Strategies have included providing students opportunities for increased decision making about rules, skills to make such contributions, and praise and recognition for their contributions (Natriello, Pallas, McDill, McPartland, & Royster, 1988). Also, schools have been reorganized to provide students with enhanced interactions with teachers (Felner & Adan, 1988), and large schools have been organized as schools-within-schools that reduced "overstaffing" and limited niches that had led to alienation and limited participation and had attenuated a sense of responsibility by students (Linney & Seidman, 1989). These organizational changes have been shown to enhance achievement and reduce a variety of forms of deviancy. As with specific suicide prevention curricula, most of these programs feature strong peer involvement in buddy/tutoring programs to increase involvement and reduce alienation (Cowen, Hightower, Pedro-Carroll, & Work, 1989; Jason & Rhodes, 1989).

These strategies for involvement and bonding seem particularly suited to the suicidal process that is characterized by social isolation, alienation, withdrawal, and low social supports. They have been included in at least one school-based indicated suicide intervention program that has sought to increase at-risk adolescents' sense of support from teachers and peers and their involvement in school activities (Eggert, Thompson, Herting, & Nicholas, 1994).

In sum, the search for general protective factors has led to the development and implementation of school-based youth suicide prevention programs that teach students help-seeking and help-providing knowledge, attitudes, and skills. Given the prevalence of encounters between actively or potentially suicidal youth and their peers, these programs provide a problem-centered (i.e., relevant to issues that students are currently dealing with) starting point for teaching students an important component of a prosocial behavioral repertoire.

These programs are taking the first steps toward ecological programming by exploring school organizational barriers to helpful contacts between students and adults in the school and are complemented by efforts to increase student involvement in the schools. Such efforts to enhance the supportiveness of the school environment can also be complemented by addressing the other major support system for youth through the growing movement to enhance family support, functioning, and involvement with schools (Booth & Dunn, 1996).

The focus of school-based youth suicide prevention programs is at a point in the trajectory toward suicidal behavior that is quite proximal to the emergence of such undesirable outcomes. Although this proximal emphasis may be necessary, given the lack of established long-range predictors or prevention strategies (Coie et al., 1993), it is recognized that this is not a sufficient universal prevention strategy. Many factors, such as the co-occurrence of a variety of dysfunctional behaviors and their shared risk and protective elements, as well as the limited capacity of schools to absorb and implement a variety of categorical programs, point to the need for programs that address more generic protective factors that may operate earlier in the etiology of the problems of youth.

Problem-Solving Competency: A General Protective Factor

Successful strategies from prevention programs aimed at related adolescent deviant behaviors can be combined with current promising school-based suicide prevention efforts (Kalafat & Elias, 1995). The goal of enhancing supports in the educational and

family contexts provides a bridge to other prevention efforts that enhance protective factors. One set of prevention programs particularly relevant to suicide includes those that promote social problem-solving/decision-making competencies.

The acquisition of competencies, particularly social problem-solving competencies, has shown considerable promise as a protective factor for a variety of the unavoidable stressors and challenges with which many adolescents must contend (Durlak, 1983; Elias et al., 1993; Kornberg & Caplan, 1980). Space limitations prevent a comprehensive review of these programs, which can be obtained from a number of sources (e.g., Elias et al., 1993; Weissberg, Caplan, & Sivo, 1989). For present purposes, the next sections will provide an overview of their conceptual basis, their particular relevance to suicide, and some of the evidence for their impact on dysfunctional behaviors, including suicide.

Essentially, competency consists of the knowledge and abilities to respond to environmental demands and the related self-appraisal that one has the ability to meet such demands (Masterpasqua, 1989). Symptoms or psychological disorders appear when individuals sense that the competencies with which they engage their environment are stretched beyond their limit (Zigler & Glick, 1986). According to Masterpasqua, the individual's implicit self-statement becomes "I just don't have what it takes and there's nothing I can do about it" (p. 1367). A core component of competency is the ability to recognize possibilities and generate alternatives (Tyler, 1978). Elias, Gara, Schuyler, Branden-Muller, and Sayette (1991) posited that "conceptually, children's ability or inability to cope with decision making situations, particularly when under stress, is viewed as a primary link in a sequence of interpersonal behavior that may eventuate in positive social functioning or in . . . psychopathology" (p. 409). A number of studies indicate that childhood patterns of deficits in adaptational competencies predict the emergence of maladjustments in adulthood (Kohlberg, Ricks, & Snarey, 1984).

This conceptualization is clearly related to the processes of hopelessness and cognitive constriction (inability to see or generate alternatives) that mediate suicide (Beck, Steer, Beck, & Newman, 1993; Schneidman, 1989). Note the similarity in the quote from

Masterpasqua (1989) and Schneidman's (1989) "There is nothing I can do (except commit suicide), and there is no one who can help me (with the pain that I am suffering)" (p. 18). In regard to their relevance to social or interpersonal problem-solving interventions, such cognitive states appear to have interpersonal implications. As reviewed earlier, there is evidence that depression may undermine supportive responses from others, and a recent study demonstrated that hopelessness mediated both loneliness and suicidality (Joiner & Rudd, 1996).

A number of studies have found greater cognitive problem-solving deficits in suicidal adolescents, compared with psychiatric and normal controls, including generation of fewer alternatives, less accurate appraisals, repetitive use of ineffective solutions, avoidant responses, and emotional responses to problematic situations (Asarnow, Carlson, & Guthrie, 1987; McLeavey, Daly, Murray, O'Riordan, & Taylor, 1987; Orbach, Bar-Joseph, & Dror, 1990; Rotheram-Borus & Trautman, 1990; Sadowski & Kelly, 1993). It follows, then, that developing social problem-solving competencies in youth may provide them with personal resources that would permit them to effectively cope with challenging situations and thus not feel so helpless and hopeless that suicide becomes a considered alternative.

Adolescent suicide attempts are most often precipitated by common stressful events such as interpersonal conflict, rejection and humiliation, and getting into trouble (Dubow et al., 1989; Shaffer & Gould, 1987; Spirito, Overholser, & Stark, 1989). Thus, programs that teach adolescents how to cope or problem solve in response to stressful events may be an important component of prevention efforts. There is evidence that social problem-solving training prepares individuals to respond more effectively to stressors and attenuates ineffective responses, including suicide.

Elias et al. (1986) and Elias et al. (1991) provided extended social problem-solving curricula to grade school students. In follow-up assessments in middle and high school, they found that participants, compared with controls, responded more effectively to stressors, were less likely to engage in vandalism or aggression, and were less likely to use alcohol or tobacco. Subsequent analyses found social problem-solving skills to be a consistent mediator of students' responses to stressors.

Dubow, Schmidt, McBride, Edwards, and Merk (1993) assessed the impact of a 13-session problem-solving curriculum and found program participants, compared with controls, able to generate a greater number of effective solutions and to express greater self-efficacy in response to vignettes of specific stressful situations such as divorce, moving, and self-care. Some effects were stronger at a 5-month follow-up assessment.

Weissberg and Elias (1993) noted that children have limited capacities to transfer and generalize skills, attitudes, and knowledge for dealing with stressors from one domain to another. Thus, Caplan et al. (1992) and Felner et al. (1992) recommended a combination of general skills training with domain-specific instructions as a means of preventing particular psychosocial problems. Caplan noted the successful application of social competence training to depression, impulsivity, and aggression as supportive of this approach and described a project that combined a structured problem-solving program with specific sessions on substance abuse into a 20-session curriculum. Inner-city and suburban 6th- and 7th-grade students were randomly assigned to the curriculum or a control group. Curriculum participants showed significant increases in quantity and effectiveness of coping skills and teacher (not blind to condition) ratings of social adjustment and interpersonal effectiveness (conflict resolution, impulse control, and popularity). Self-reports of substance use showed generally positive outcomes; controls showed increases in intentions to use beer and hard liquor and excessive alcohol use, whereas participants did not. Both groups showed increases in intentions to use cigarettes, marijuana, and wine; no differences were found in reported changes in frequency of substance use.

Orbach and Bar-Joseph (1993) evaluated a combined universal prevention program that included a session on suicide. Seven 2-hour meetings were devoted to a wide range of topics: depression and happiness, family issues, feelings of helplessness, coping with failure, coping with stress, problem solving, and coping with suicidal urges. The sessions emphasized sharing, universalizing of experiences, problem-solving alternatives, and self- and peer help approaches. Students were randomly assigned to experimental and control classes in six high schools and completed questionnaires on suicidal tendencies, hopelessness, ego identity, and coping ability

before and after the program. Significant positive changes were found for the class participants compared with controls in reduction of suicidal feelings, increased ego identity cohesion, and ability to cope with problems.

In an indicated intervention, McLeavey, Daly, Ludgate, and Murray (1994) randomly assigned self-poisoning patients (average age = 24) to either a 5-hour interpersonal problem-solving skills training group or individual crisis-oriented problem reduction sessions that did not include specific skills training. A number of problem-solving measures were included in the assessment battery that was administered prior to the interventions and at 3-week and 6-month follow-ups. Participants were followed for 1 year to assess for repeated self-poisoning acts. Interpersonal problem-solving skills and the ability to cope with everyday problematic situations significantly improved for the experimental group but not for the control group. At 1-year follow-up, the self-poisoning act was repeated by 10.5% of the experimental participants and 25% of the control participants.

Overall, these studies provide evidence that teaching individuals problem-solving skills may help them cope with a variety of stressors, may attenuate dysfunctional behaviors such as substance use (which often co-occurs with suicide), and may provide a viable alternative to suicidal feelings and behaviors. It is possible that such problem-solving competencies may serve as protective factors that along with other supports, may attenuate the risk of developing suicidal behaviors.

As is the case with evaluations of school-based suicide prevention programs, these represent a set of generally well-designed, controlled evaluations of specific programs that with the possible exception of the 2-year program implemented by Elias et al. (1991), were relatively brief interventions. None of them represented the institutionalized multiyear, ecological, or systemic programming recommended by Weissberg and Elias (1993). A number of these investigators reported nested effects by classes or schools, thus reemphasizing the need for careful implementation procedures.

On the positive side, the evaluations of school-based suicide prevention and problem-solving/competence programs lend empirical support to a prevention strategy that has a solid conceptual basis. The enhancement of problem-solving competencies, sense of

self-efficacy, and prosocial help-seeking/help-providing behaviors, combined with organizational changes in schools and the families and communities with which they and their students interact, could provide a powerful counterbalance to the stressors and personal vulnerabilities with which youth must contend.

Conclusion

Weissberg and Elias (1993) reviewed a number of national calls for comprehensive kindergarten through 12th grade school health programming that would provide students and families with exposure to a range of cognitive, affective, and skill development approaches that contribute to overall competence with respect to physical, mental-emotional, and social health. They recommended that such programming synthesize the strengths of many currently available prevention programs into a larger coordinated effort called Comprehensive Social Competence and Health Education (C-SCAHE). They noted gaps in program scope, intensity, and duration between this ideal and the current program models that have been implemented and evaluated in schools to date; and called for a sustained, collaborative 20-year effort to establish, evaluate, and disseminate K-12 C-SCAHE programming.

That 20-year figure is well advised, given the difficulty involved in establishing even limited, demonstrably effective innovations in schools and the daunting moving target created by the expanding incidence of new morbidities among youth. In the shorter run, common conceptual bases and individual controlled studies suggest the promise of combining generic problem-solving training with focused, domain-specific training in such areas as suicide prevention into ecological prevention programs.

The Healthy People 2000: Midcourse Review and 1995 Revisions (DHHS, 1995) reported that for youth aged 15 to 24, the reduction of mortality was the only life stage goal not met in 1990. This report indicated that "real progress is needed in curbing both interpersonal violence and self-inflicted violence to achieve the year 2000 target" (p. 11). The lack of progress for self-inflicted injury is not surprising because suicide receives far less media, political, and fiscal attention than does homicide, although it is a more prevalent manner of death. It appears that many federal and school officials

have erroneously concluded that the youth suicide problem has been solved despite the absence of a commitment to support large-scale evaluations of promising applied prevention programs. Goals and concerns have not translated into funding for the development or evaluation of comprehensive prevention programs (Berman & Jobes, 1995; Potter, 1994). The reduction in emphasis on school-based programs was reflected in a 1994 national Gallup survey of adolescents in which respondents were significantly less likely than in a 1991 survey to report that their school and community were doing anything regarding adolescent suicide (Zimmerman, 1994).

This retreat from concern about youth suicide is particularly unfortunate at this time, not only because of the continued prevalence of youth suicidal behaviors but also because of the convergence of compelling conceptual and empirical support for effective school-based prevention programming. It is past time to commit sufficient resources to establish and evaluate such prevention programs in grade levels that precede major school transitions, with boosters in subsequent grades. Evaluation should include careful assessment of implementation fidelity as well as a multilevel outcome evaluation that assesses (a) participant acceptance of the program; (b) acquisition of knowledge, skills, and attitudes; (c) necessary organizational changes; (d) the application or performance of learning; and (e) distal impacts associated with such organizational changes and performance (Kirkpatrick, 1975). By enhancing adolescents' coping competencies and prosocial repertoire, and the supportiveness of their community contexts, such programs may not only reduce the incidence of self-destructive behaviors but also contribute to the development of healthy people and healthy communities.

References

- Allen, J. P., Aber, J. L., & Leadbeater, B. J. (1990). Adolescent problem behaviors: The influence of attachment and autonomy. *Psychiatric Clinics of North America*, 13, 455-467.
- Allen, J. P., Philliber, S., & Hoggson, N. (1990). School-based prevention of teen-age pregnancy and school dropout: Process evaluation of the national replication of the Teen Outreach program. *American Journal of Community Psychology*, 18, 505-524.

- Allen, J. P., Weissberg, R. P., & Hawkins, J. (1989). The relation between values and social competence in early adolescence. *Developmental Psychology*, 25, 458-464.
- Asarnow, J. R., Carlson, G. A., & Guthrie, D. (1987). Coping strategies, self perceptions, hopelessness, and perceived family environments in depressed and suicidal children. *Journal of Consulting and Clinical Psychology*, 55, 361-366.
- Beck, A. T., Steer, R. A., Beck, J. S., & Newman, C. F. (1993). Hopelessness, depression, suicidal ideation, and clinical diagnosis of depression. *Suicide and Life-Threatening Behavior*, 23, 139-145.
- Bell-Dolan, D., Foster, S. L., & Christopher, J. M. (1995). Girls' peer relations and internalizing problems: Are socially neglected, rejected, and withdrawn girls at risk? *Journal of Child Clinical Psychology*, 24, 463-473.
- Berman, A. L. (Chair). (1996, April). *The prevention of youth suicide by firearms*. Panel presentation at the annual conference of the American Association of Suicidology, St. Louis, MO.
- Berman, A. L., & Jobes, D. A. (1995). Suicide prevention in adolescents (age 12-18). *Suicide and Life-Threatening Behavior*, 25, 143-154.
- Berndt, T. J. (1979). Developmental changes in conformity to peers and parents. *Developmental Psychology*, 15, 608-616.
- Berven, N. L. (1985). Reliability and validity of standardized case management simulations. *Journal of Counseling Psychology*, 32, 397-409.
- Blakey, C. H., Mayer, J. P., Gottshalk, R. G., Schmitt, N., Davidson, W. S., Roitman, D. B., & Emshoff, J. G. (1987). The fidelity-adaptation debate: Implications for the implementation of public sector social programs. *American Journal of Community Psychology*, 15, 253-268.
- Bongar, B., & Harmatz, M. (1991). Clinical psychology graduate education in the study of suicide: Availability, resources, and importance. *Suicide and Life-Threatening Behavior*, 21, 231-244.
- Booth, A., & Dunn, J. F. (1966). *Family-school links: How do they affect educational outcomes?* Mahwah, NJ: Lawrence Erlbaum.
- Brent, D. A., Perper, J., & Allman, C., Moritz, G. M., Wartella, M. E., & Zelenak, J. P. (1991). The presence and accessibility of firearms in the homes of adolescent suicides. *Journal of the American Medical Association*, 266, 2989-2995.
- Brent, D. A., Perper, J., Kolko, D. J., & Goldstein, C. E. (1988). Risk factors for adolescent suicide: A comparison of adolescent suicide victims with suicidal inpatients. *Archives of General Psychiatry*, 45, 581-588.
- Brent, D. A., Perper, J., Moritz, G., Allman, C., Friend, A., Schweers, J., Roth, C., Balach, L., & Harrington, K. (1992). Psychiatric effects of exposure to suicide among friends and acquaintances of adolescent suicide victims. *Journal of the American Academy of Child and Adolescent Psychiatry*, 31, 629-640.
- Brent, D. A., Perper, J., Moritz, G., Baugher, C. R., Balach, L., & Schweers, J. (1993). Stressful life events and adolescent suicide. *Suicide and Life-Threatening Behavior*, 23, 179-187.
- Brent, D. A., Perper, J., Moritz, G., Baugher, C. R., Schweers, J., & Roth, C. (1993). Firearms and adolescent suicide: A community case-control study. *American Journal of Diseases of Children*, 147, 1066-1071.
- Caplan, G. (1964). *Principles of preventative psychiatry*. New York: Basic Books.
- Caplan, W., Weissberg, R. P., Grober, J. S., Sivo, P. J., Grady, K., & Jacoby, C. (1992). Social competence promotion with inner-city and suburban young adolescents:

- Effects on social adjustment and alcohol use. *Journal of Consulting and Clinical Psychology*, 60, 56-63.
- Carnegie Council on Adolescent Development. (1988). *Review of school-based health services*. New York: Carnegie Foundation.
- Cauce, A. M., & Srebnik, D. S. (1989). Peer networks and social support: A focus for preventive efforts with youths. In L. A. Bond & B. E. Compas (Eds.), *Primary prevention and promotion in the schools* (pp. 235-254). Newbury Park, CA: Sage.
- Centers for Disease Control and Prevention. (1992). *Youth suicide prevention programs: A resource guide*. Atlanta, GA: Author.
- Centers for Disease Control and Prevention. (1994). Suicide contagion and the reporting of suicide: Recommendations from a national workshop. *Morbidity and Mortality Weekly Report*, 43(RR-6), 13-18.
- Centers for Disease Control and Prevention. (1995a). Suicide among children, adolescents, and young adults. *Morbidity and Mortality Weekly Report*, 44(15), 289-291.
- Centers for Disease Control and Prevention. (1995b). Youth risk behavior surveillance: United States, 1993. *Morbidity and Mortality Weekly Report*, 44(SS-1).
- Christopher, G. M., Kurtz, P. D., & Howing, P. T. (1989). The status of mental health services for youth in the school and community. *Children and Youth Services Review*, 11, 159-174.
- Ciffone, J. (1993). Suicide prevention: A classroom presentation to adolescents. *Social Work*, 38, 196-203.
- Clark, D. C. (1990, December). School-based suicide prevention. *Suicide Research Digest*, 4, 1-3.
- Clark, D. C. (1993). Suicidal behavior in childhood and adolescence: Recent studies and clinical implications. *Psychiatric Annals*, 23, 271-283.
- Clark, D. C., & Fawcett, B. (1992). Review of empirical risk factors for evaluation of the suicidal patient. In B. Bongar (Ed.), *Suicide: Guidelines for assessment, management, and treatment* (pp. 16-48). New York: Oxford University Press.
- Coie, J. D., Watt, N. F., West, S. G., Hawkins, J. D., Asarnow, J. R., Markham, J. J., Raney, S. L., Shure, M. B., & Lang, B. (1993). The science of prevention: A conceptual framework and some directions for a national research program. *American Psychologist*, 48, 1013-1022.
- Connolly, J., Geller, S., Morton, P., & Kutcher, S. (1992). Peer response to social interactions with depressed adolescents. *Journal of Clinical Child Psychology*, 21, 365-370.
- Cowen, E. L. (1980). The wooing of primary prevention. *American Journal of Community Psychology*, 8, 258-284.
- Cowen, E. L., Hightower, A. D., Pedro-Carroll, J. A., & Work, W. C. (1989). School-based models for primary prevention programming with children. *Prevention in Human Services*, 7, 133-160.
- Davis, J. M., & Sandoval, J. (1991). *Suicidal youth: School-based intervention and prevention*. San Francisco: Jossey-Bass.
- Dryfoos, J. G. (1994). *Full-service schools: A revolution in health and social services for children, youth, and families*. San Francisco: Jossey-Bass.
- Dubow, E. F., Kausch, D. F., Blum, M. C., Reed, J., & Bush, E. (1989). Correlates of suicidal ideation and attempts in a community sample of junior high and high school students. *Journal of Clinical Child Psychology*, 18, 158-166.

- Dubow, E. F., Schmidt, D., McBride, J., Edwards, S., & Merk, F. L. (1993). Teaching children to cope with stressful experiences: Initial implementation and evaluation of a primary prevention program. *Journal of Consulting and Clinical Psychology, 22*, 428-440.
- Durlak, J. A. (1983). Social problem-solving as a primary prevention strategy. In R. D. Felner, L. A. Jason, J. N. Moritsuge, & S. S. Farber (Eds.), *Preventive psychology: Theory, research, and practice* (pp. 31-48). New York: Pergamon.
- Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., & MacIver, D. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experience in schools and families. *American Psychologist, 48*, 90-101.
- Eggert, L. L., Thompson, E. A., Herting, J. R., & Nicholas, L. J. (1994). A prevention research program: Reconnecting at-risk youth. *Issues in Mental Health Nursing, 15*, 107-135.
- Eggert, L. L., Thompson, E. A., Randell, B. P., & McCauley, E. (1995). *Youth suicide prevention plan for Washington State*. Olympia: Washington State Department of Health.
- Elias, M. J., Gara, M. A., Schuyler, T. F., Branden-Muller, L. R., & Sayette, M. A. (1991). The promotion of social competence: Longitudinal study of a preventive school-based program. *American Journal of Orthopsychiatry, 61*, 409-417.
- Elias, M. J., Gara, M. A., Ubriaco, M., Rothbaum, P. A., Clabby, J. F., & Schuyler, T. (1986). Impact of a social problem solving intervention on children's coping with middle-school stressors. *American Journal of Community Psychology, 14*, 259-275.
- Elias, M. J., Weissberg, R. P., Hawkins, J. D., Perry, C. L., Zins, J. E., Dodge, K. A., Kendall, P. C., Rotheram-Borus, M. J., Jason, L. A., & Wilson-Brewer, R. (1993). The school-based promotion of social competence: Theory, research, and practice. In R. J. Haggerty, N. Garmezy, M. Rutter, & L. Sherrod (Eds.), *Stress, risk, and resilience in children and adolescents: Processes, mechanisms, and interventions*. New York: Cambridge University Press.
- Fairweather, G. W., Tornatzky, L. G., Fergus, E., & Avellar, J. (1982). *Innovation and social process*. New York: Pergamon.
- Felner, R. D., & Adan, A. M. (1988). The school transitional project: An ecological intervention and evaluation. In R. H. Price, E. L. Cowen, R. P. Lorion, & J. Ramos-McKay (Eds.), *14 ounces of prevention* (pp. 111-122). Washington, DC: American Psychological Association.
- Felner, R. D., Adan, A. M., & Silverman, M. M. (1992). Risk assessment and prevention of youth suicide in schools and educational contexts. In R. W. Maris, A. L. Berman, J. T. Maltzberger, & R. I. Yufit (Eds.), *Assessment and prediction of suicide* (pp. 420-447). New York: Guilford.
- Felner, R. D., DuBois, D. L., & Adan, A. M. (1991). Community-based intervention and prevention: Conceptual underpinnings and progress toward a science of community intervention and evaluation. In C. E. Walker (Ed.), *Clinical psychology: Historical and research foundations* (pp. 459-510). New York: Plenum.
- Felner, R. D., & Felner, T. W. (1989). Primary prevention programs in the educational context: A transactional-ecological framework and analysis. In L. A. Bond & B. E. Compas (Eds.), *Primary prevention and promotion in the schools* (pp. 13-49). Newbury Park, CA: Sage.

- Gagne, R. M. (1985). *The conditions of learning*. New York: Holt, Rinehart & Winston.
- Garland, A. F., & Zigler, E. (1993). Adolescent suicide prevention: Current research and social policy implications. *American Psychologist*, 48, 169-182.
- Garmezy, N. (1983). Stresses of childhood. In N. Garmezy & M. Rutter (Eds.), *Stress, coping and development in children*. New York: McGraw-Hill.
- Garrison, C. Z., Addy, C. L., Jackson, K. L., McKeown, R. E., & Waller, J. L. (1991). A longitudinal study of suicidal ideation in young adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 30, 597-603.
- Gordon, R. (1983). An operational classification of disease prevention. *Public Health Reports*, 96, 107-109.
- Greenberg, M. T., Siegel, J. M., & Leitch, C. J. (1983). The nature and importance of attachment relationships to parents and peers during adolescence. *Journal of Youth and Adolescence*, 12, 373-386.
- Handgun Epidemic Lowering Plan (HELP) Network. (1996). *The HELP handgun disposal handbook: A prescription for safety*. Chicago: Author.
- Harman, M. J., Armsworth, M. W., & Henderson, D. L. (1989, Fall). Rural Texas: To whom do children with problems turn? *TACD Journal*, 107-113.
- Hawkins, J., & Weis, J. (1985). The sociodevelopmental model: An integrated approach to delinquency prevention. *Journal of Primary Prevention*, 6, 73-97.
- Hawton, K., O'Grady, J., Osborn, M., & Cole, D. (1982). Adolescents who take overdoses: Their characteristics, problems, and contacts with helping agencies. *British Journal of Psychiatry*, 140, 118-123.
- Healthy communities 2000: Model standards: Guidelines for community attainment of the year 2000 health objectives. (1991). Washington, DC: American Public Health Association.
- Hechinger, F. M. (1992). *Fateful choices: Healthy youth for the 21st century*. New York: Hill & Wang.
- Hirsch, B. J., & DuBois, D. L. (1992). The relation of peer social support and psychological symptomatology during the transition to junior high school: A two-year longitudinal analysis. *American Journal of Community Psychology*, 20, 333-348.
- Hubbard, J. P. (1978). *Measuring medical education: The tests and experience of the National Board of Medical Examiners* (2nd ed.). Philadelphia: Lea & Febiger.
- Hutchinson, R. L., & Reagan, C. A. (1987). Problems for which seniors would seek help from guidance counselors. Washington, DC: Educational Resources Information Center.
- Illback, R. J., Zins, J. E., Maher, C. A., & Greenberg, R. (1990). An overview of principles and procedures of program planning and evaluation. In T. B. Gutkin & C. R. Reynolds (Eds.), *The handbook of school psychology* (pp. 799-820). New York: John Wiley.
- Injury control in the 1990s: A national plan for action. (1993). Atlanta, GA: Centers for Disease Control and Prevention.
- Institute of Medicine. (1994). *Reducing risk for mental disorder: Frontiers for preventive intervention research*. Washington, DC: National Academy Press.
- Jason, L., & Rhodes, J. (1989). Children helping children: Implications for prevention. *Journal of Primary Prevention*, 9, 203-212.

- Joiner, T. E., Jr. (1994). Contagious depression: Existence, specificity to depressed symptoms, and the role of reassurance-seeking. *Journal of Personality and Social Psychology*, 67, 287-296.
- Joiner, T. E., Jr., Alfano, M. S., & Metalsky, G. I. (1992). When depression breeds contempt: Reassurance-seeking, self-esteem, and rejection of depressed college students by their roommates. *Journal of Abnormal Psychology*, 101, 165-173.
- Joiner, T. E., Jr., & Rudd, M. D. (1996). Disentangling the interrelations between hopelessness, loneliness, and suicidal ideation. *Suicide and Life-Threatening Behavior*, 26, 19-26.
- Kalafat, J. (1990). Suicide intervention in the schools. In A. R. Roberts (Ed.), *Contemporary perspectives on crisis intervention and prevention* (pp. 447-474). Englewood Cliffs, NJ: Prentice Hall.
- Kalafat, J. (1991, April). *Avoiding premature closure: Early data on the evaluation of school programs*. Panel presentation at the annual conference of the American Association of Suicidology, Boston.
- Kalafat, J., & Elias, M. (1992). Adolescents' experience with and response to suicidal peers. *Suicide and Life-Threatening Behavior*, 22, 315-321.
- Kalafat, J., & Elias, M. (1994). An evaluation of adolescent suicide intervention classes. *Suicide and Life-Threatening Behavior*, 24, 224-233.
- Kalafat, J., & Elias, M. (1995). Suicide prevention in an education context. *Suicide and Life-Threatening Behavior*, 25, 123-133.
- Kalafat, J., Elias, M., & Gara, M. A. (1993). The relationship of bystander intervention variables to adolescents' responses to suicidal peers. *Journal of Primary Prevention*, 13, 231-244.
- Kalafat, J., & Gagliano, C. (1996). The use of simulations to assess the impact of an adolescent suicide response curriculum. *Suicide and Life-Threatening Behavior*, 26, 359-364.
- Kalafat, J., & Mackey, K. (1994, April). *The school return of youths hospitalized for suicidal behavior*. Paper presented at the annual conference of the American Association of Suicidology, New York.
- Kalafat, J., & Ryerson, D. (1993, April). *Current practices in school based suicide programs*. Workshop presented at the annual conference of the American Association of Suicidology, San Francisco.
- Kalafat, J., & Underwood, M. (1989). *Lifelines: A school based adolescent suicide response program*. Dubuque, IA: Kendall/Hunt.
- Kienhorst, I. C. W. M., DeWilde, E. J., Diekstra, R. F. W., & Wolters, W. H. G. (1995). Adolescents' image of their suicide attempt. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34, 623-628.
- Kirkpatrick, D. (1975). *Evaluating training programs*. Madison, WI: American Society for Training and Development.
- Kohlberg, L., Ricks, D., & Snarey, J. (1984). Childhood development as a predictor of adaptation in adulthood. *Genetic Psychology Monographs*, 110, 91-172.
- Kornberg, M. S., & Caplan, G. (1980). Risk factors and preventive interventions in child psychotherapy: A review. *Journal of Primary Prevention*, 1, 71-133.
- Larson, R. W. (1983). Adolescents' daily experience with family and friends: Contrasting opportunity systems. *Journal of Marriage and Family*, 45, 739-750.
- Lester, D. (1993). The effectiveness of suicide prevention centers. *Suicide and Life-Threatening Behavior*, 23, 263-267.

- Lester, D. (1996, April). *Controlling crime facilitators: Evidence from research on homicide and suicide*. Paper presented at the annual conference of the American Association of Suicidology, St. Louis, MO.
- Linney, J. A., & Seidman, E. (1989). The future of schooling. *American Psychologist*, 44, 336-340.
- Loftin, C., McDowall, D., Wiersema, B., & Cottey, T. J. (1991). Effects of restrictive licensing of handguns on homicide and suicide in the District of Columbia. *New England Journal of Medicine*, 325, 1615-1620.
- Masterpasqua, F. (1989). A competence paradigm for psychological practice. *American Psychologist*, 44, 1366-1371.
- McLeavey, B. C., Daly, R. J., Ludgate, J. W., & Murray, C. M. (1994). Interpersonal problem-solving skills training in the treatment of self-poisoning patients. *Suicide and Life-Threatening Behavior*, 24, 382-394.
- McLeavey, B. C., Daly, R. J., Murray, C. M., O'Riordan, J., & Taylor, M. (1987). Interpersonal problem solving deficits in self-poisoning patients. *Suicide and Life-Threatening Behavior*, 17, 33-49.
- Meagher, N., & Clark, J. (1982, March). Fewer adolescents discuss problems with school staff. *Phi Delta Kappan*, 494-497.
- Moscicki, E. K. (1995). Epidemiology of suicidal behaviors. *Suicide and Life-Threatening Behavior*, 25, 22-35.
- Muehrer, P. (1990). *Conceptual research models for preventing mental disorders* (DHHS Publication No. ADM 90-1713). Rockville, MD: National Institute of Mental Health.
- Mullins, L. L., Chard, S. R., Hartman, V. L., Bowbly, D., Rich, L., & Burke, C. (1995). Relation between depressive symptomatology in school children and social response of teachers. *Journal of Clinical Child Psychology*, 24, 474-482.
- Naginy, J. L., & Swisher, J. D. (1990). To whom would adolescents turn with drug problems? Implications for school professionals. *High School Journal*, 73, 80-85.
- National Institute of Mental Health. (1994). *NIMH suicide research program*. Rockville, MD: Author.
- Natriello, G., Pallas, A., McDill, E., McPartland, J., & Royster, D. (1988). *An examination of the assumptions and evidence of alternative drop-out prevention programs in high school* (Rep. No. 365). Baltimore: Johns Hopkins University, Center for Research on Elementary and Middle Schools. (ERIC Documentation Reproduction No. ED-299374)
- Norton, E. M., Durlak, J. A., & Richards, M. H. (1989). Peer knowledge of and reactions to adolescent suicide. *Journal of Youth and Adolescence*, 18, 427-437.
- Offer, D., Howard, K. J., Schonert, K. A., & Ostrov, E. (1991). To whom do adolescents turn for help? Differences between disturbed and nondisturbed adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 30, 623-630.
- Orbach, I., & Bar-Joseph, H. (1993). The impact of a suicide prevention program for adolescents on suicidal tendencies, hopelessness, ego identity, and coping. *Suicide and Life-Threatening Behavior*, 23, 120-129.
- Orbach, I., Bar-Joseph, H., & Dror, N. (1990). Styles of problem solving in suicidal individuals. *Suicide and Life-Threatening Behavior*, 20, 56-64.

- Overholser, J. C., Hemstreet, A. H., Spirito, A., & Vyse, S. (1989). Suicide awareness programs in the schools: Effects of gender and personal experience. *Journal of the American Academy of Child and Adolescent Psychiatry*, 28, 925-930.
- Pfeffer, C. R., Klerman, G. L., Hurt, S. W., Kakuma, T., Peskin, J. R., & Siefker, C. A. (1993). Suicidal children grow up: Rates and psychological risk factors for suicide attempts during follow-up. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32, 106-113.
- Potter, L. (1994, April). *Reducing the toll: Means to an end*. Paper presented at the annual conference of the American Association of Suicidology, New York.
- Potter, L., Powell, K. E., & Kachur, S. P. (1995). Suicide prevention from a mental health perspective. *Suicide and Life-Threatening Behavior*, 25, 82-91.
- Purkey, S. C., & Smith, M. S. (1983). Effective schools: A review. *Elementary School Journal*, 83, 427-453.
- Reisman, B. A., & Scharfman, M. A. (1991). *Teenage suicide prevention workshops for guidance counselors* [Trainer's manual and resource materials]. Douglastown, NY: Pride of Judea Medical Center.
- Rosenberg, M. L., & Mercy, J. A. (1991). Introduction. In M. L. Rosenberg & M. A. Fencely (Eds.), *Violence in America: A public health approach*. New York: Oxford University Press.
- Ross, C., & Kalafat, J. (1996). *Barriers to seeking help from adults in schools*. Manuscript in preparation.
- Rotheram-Borus, M. J., & Trautman, P. D. (1990). Cognitive style and pleasant activities among female adolescent suicide attempters. *Journal of Consulting and Clinical Psychology*, 58, 554-561.
- Rudd, M. D., Joiner, T. E., & Rajab, M. H. (1995). Help negation after acute suicidal crisis. *Journal of Consulting and Clinical Psychology*, 63, 499-503.
- Rutter, M. (1989). Isle of Wright revisited: Twenty-five years of child psychiatric epidemiology. *Journal of the American Academy of Child and Adolescent Psychiatry*, 28, 633-653.
- Ryerson, D. (1990). Suicide awareness education in schools: The development of a core program and subsequent modifications for special populations or institutions. *Death Studies*, 14, 371-390.
- Ryerson, D. (1993, April). *A ten-year follow-up of a multi-site school program*. Paper presented at the annual conference of the American Association of Suicidology, San Francisco.
- Sadowski, C., & Kelly, M. L. (1993). Social problem solving in suicidal adolescents. *Journal of Consulting and Clinical Psychology*, 61, 121-127.
- Schneidman, E. S. (1989). Overview: A multidimensional approach to suicide. In D. Jacobs & H. N. Brown (Eds.), *Suicide: Understanding and responding* (pp. 1-30). Madison, CT: International Universities Press.
- Shaffer, D., Garland, A., Gould, M., Fisher, P., & Trautman, P. (1988). Preventing teenage suicide: A critical review. *Journal of the American Academy of Child and Adolescent Psychiatry*, 27, 675-687.
- Shaffer, D., Garland, A., Vieland, V., Underwood, M., & Busner, C. (1991). The impact of curriculum-based suicide prevention programs for teenagers. *Journal of the American Academy of Child and Adolescent Psychiatry*, 30, 588-596.

- Shaffer, D., Garland, A., & Whittle, B. (1988). *An evaluation of youth suicide prevention programs: New Jersey adolescent suicide prevention project: Final project report*. Trenton: New Jersey Division of Mental Health and Hospitals.
- Shaffer, D., & Gould, M. S. (1987). *Progress report: Study of completed and attempted suicides in adolescents* (Contract No. RO1-MH-38198). Bethesda, MD: National Institute of Mental Health.
- Shaffer, D., Vieland, V., Garland, A., Rojas, M., Underwood, M., & Busner, C. (1990). Adolescent suicide attempters: Response to suicide prevention programs. *Journal of the American Medical Association*, 264, 3151-3155.
- Shafii, M., Whittinghill, J. R., Dolen, D. C., Pearson, V. D., Derrick, A., & Carrington, S. (1984). Psychological reconstruction of completed suicide in childhood and adolescence. In H. S. Sudak, A. B. Ford, & N. B. Rushforth (Eds.), *Suicide in the young* (pp. 271-294). Boston: Wright-PSG.
- Silverman, M. M., & Felner, R. D. (1995). The place of suicide prevention in the spectrum of prevention: Definitions of critical terms and constructs. *Suicide and Life-Threatening Behavior*, 25, 70-81.
- Sommers-Flanagan, J., & Sommers-Flanagan, R. (1995). Psychotherapy techniques with treatment-resistant adolescents. *Psychotherapy*, 32, 131-140.
- Spirito, A., Overholser, J., Ashworth, S., Morgan, J., & Benedict-Drew, C. (1988). Evaluation of a suicide awareness curriculum for high school students. *Journal of the American Academy of Child and Adolescent Psychiatry*, 27, 705-711.
- Spirito, A., Overholser, J., & Stark, L. J. (1989). Common problems and coping strategies: II. Findings with adolescent suicide attempters. *Journal of Abnormal Child Psychology*, 17, 213-221.
- Staub, E. (1979). *Positive social behavior and morality: Vol. 2. Socialization and development*. New York: Academic Press.
- Tanney, B. L. (1989). Preventing suicide by improving the competencies of caregivers. In *Report of the Secretary's Task Force on Youth Suicide: Vol. 3. Prevention and interventions in youth suicide* (DHHS Publication No. ADM 89-1623, pp. 213-223). Washington, DC: U.S. Government Printing Office.
- Tierney, R. J. (1988). *Comprehensive evaluation for suicide intervention training*. Unpublished doctoral dissertation, University of Calgary, Alberta, Canada.
- Topol, P., & Resnikoff, M. (1982). Perceived peer and family relationships, hopelessness, and locus of control as factors in adolescent suicide attempts. *Suicide and Life-Threatening Behavior*, 12, 141-150.
- Trout, D. L. (1980). The role of social isolation in suicide. *Suicide and Life-Threatening Behavior*, 10, 10-23.
- Tyler, L. E. (1978). *Individuality*. San Francisco: Jossey-Bass.
- U.S. Department of Health and Human Services, Public Health Service. (1991). *Healthy people 2000: National health promotion and disease prevention objectives* (DHHS Publication No. PHS 91-50212). Washington, DC: U.S. Government Printing Office.
- U.S. Department of Health and Human Services, Public Health Service. (1995). *Healthy people 2000: Midcourse review and 1995 revisions*. Washington, DC: U.S. Government Printing Office.
- Walker, P. V. (1996, August 2). Scientists decry lawmakers' decision to slash support for firearms research. *Chronicle of Higher Education*, 42(47), 19-21.

- Weil, D. S., & Hemenway, D. (1992). Loaded guns in the home: Analysis of a national random survey of gun owners. *Journal of the American Medical Association*, 267, 3033-3077.
- Weissberg, R. P., Caplan, M., & Harwood, R. L. (1991). Promoting competent young people in competence-enhancing environments: A systems-based perspective on primary prevention. *Journal of Consulting and Clinical Psychology*, 59, 830-841.
- Weissberg, R. P., Caplan, M., & Sivo, P. J. (1989). A new conceptual framework for establishing school-based social competence promotion programs. In L. A. Bond & B. E. Compas (Eds.), *Primary prevention and promotion in the schools* (pp. 255-296). Newbury Park, CA: Sage.
- Weissberg, R. P., & Elias, M. J. (1993). Enhancing young people's social competence and health behavior: An important challenge for educators, scientists, policymakers, and funders. *Applied & Preventive Psychology*, 2, 179-190.
- Wellman, M. M., & Wellman, R. J. (1986). Sex differences in peer responsiveness to suicide ideation. *Suicide and Life-Threatening Behavior*, 3, 360-378.
- Wells, C. E., & Ritter, K. (1979). Paperwork, pressure, and discouragement: Student attitudes toward guidance services and implications for the profession. *Personnel and Guidance Journal*, 58, 170-175.
- Wills, T. A. (1985). Supportive functions of interpersonal relationships. In S. Cohen & S. L. Syme (Eds.), *Social support and health* (pp. 61-82). Orlando, FL: Academic Press.
- Wills, T. A., & Vaughan, R. (1989). Social support and substance use in early adolescence. *Journal of Behavioral Medicine*, 12, 321-339.
- Winter, M. G., Hicks, R., McVey, G., & Fox, J. (1988). Age and sex differences in choice of consultation for various types of problems. *Child Development*, 59, 1046-1055.
- Zigler, E., & Glick, M. (1986). *A developmental approach to adult psychopathology*. New York: John Wiley.
- Zimmerman, J. K. (1994, Fall). Gallup survey of adolescent suicidality. *Newslink*, 20, 6-7.
- Zimring, F. E., & Hawkins, J. (1983). *The citizen's guide to gun control*. New York: Macmillan.